WHAT IS CLAIMED IS

1. A method, comprising:

receiving a matrix comprising a first plurality of samples associated with a first signal and a second plurality of samples associated with a second signal, the second signal comprising a first portion associated with the first signal and a second portion associated with at least one disturbance; and

projecting the matrix so as to at least substantially separate the first portion of the second signal from the second portion of the second signal.

2. The method of Claim 1, wherein projecting the matrix comprises performing canonical QR-decomposition on the matrix, the canonical QR-decomposition creating an orthogonal matrix and an upper triangular matrix.

3. The method of Claim 2, wherein:

the upper triangular matrix has a plurality of values along a diagonal of the matrix, each value being greater than or equal to zero; and

the diagonal lies between an upper left corner and a lower right corner of the upper triangular matrix.

4. The method of Claim 1, wherein projecting the matrix comprises projecting the first signal along with the second signal.

5. The method of Claim 1, further comprising generating the matrix by:

forming a first column Hankel matrix in a first portion of the matrix; and

forming a second column Hankel matrix in a first portion of the matrix.

6. The method of Claim 5, wherein:

the first column Hankel matrix comprises a backward column Hankel matrix; and

the second column Hankel matrix comprises a forward column Hankel matrix.

7. The method of Claim 5, wherein:

the first column Hankel matrix comprises one of a backward column Hankel matrix and a forward column Hankel matrix; and

the second column Hankel matrix comprises one of a backward column Hankel matrix and a forward column Hankel matrix.

8. The method of Claim 1, wherein the matrix comprises a first matrix, the first matrix containing a first segment of samples; and

further comprising:

receiving a second matrix containing a second segment of samples;

concatenating the second matrix with an upper triangular matrix associated with the first matrix to form a concatenated matrix; and

projecting the concatenated matrix.

9. The method of Claim 8, wherein concatenating the second matrix with the upper triangular matrix comprises multiplying values in the upper triangular matrix by a forgetting factor.

10. The method of Claim 8, wherein the at least one disturbance comprises at least one of white noise and colored noise.

11. An apparatus, comprising:

at least one memory operable to store a matrix comprising a first plurality of samples associated with a first signal and a second plurality of samples associated with a second signal, the second signal comprising a first portion associated with the first signal and a second portion associated with at least one disturbance; and

at least one processor operable to perform canonical QR-decomposition on the matrix, the canonical QR-decomposition creating an orthogonal matrix and an upper triangular matrix, the upper triangular matrix having a plurality of values along a diagonal of the matrix, each value being greater than or equal to zero, the diagonal lying between an upper left corner and a lower right corner of the upper triangular matrix.

12. The apparatus of Claim 11, wherein performing the canonical QR-decomposition allows the at least one processor to project the matrix so as to at least substantially separate the first portion of the second signal from the second portion of the second signal.

13. The apparatus of Claim 12, wherein the at least one processor is operable to generate a projection that includes the first signal, the first portion of the second signal, and the second portion of the second signal.

14. The apparatus of Claim 11, wherein the at least one processor is further operable to generate the matrix by:

forming a first column Hankel matrix in a first portion of the matrix; and

forming a second column Hankel matrix in a first portion of the matrix.

15. The apparatus of Claim 14, wherein:

the first column Hankel matrix comprises a backward column Hankel matrix; and

the second column Hankel matrix comprises a forward column Hankel matrix.

16. The apparatus of Claim 11, wherein:

the matrix comprises a first matrix, the first matrix containing a first segment of samples; and

the at least one processor is further operable to:

receive a second matrix containing a second segment of samples;

concatenate the second matrix with an upper triangular matrix associated with the first matrix to form a concatenated matrix; and

perform canonical QR-decomposition on the concatenated matrix.

17. The apparatus of Claim 16, wherein the at least one processor is further operable to multiply values in the upper triangular matrix by a forgetting factor.

18. A computer program embodied on a computer readable medium and operable to be executed by a processor, the computer program comprising computer readable program code for:

generating a matrix comprising a first plurality of samples associated with a first signal and a second plurality of samples associated with a second signal, the second signal comprising a first portion associated with the first signal and a second portion associated with at least one disturbance; and

decomposing the matrix so as to form a projection of the matrix, the projection at least substantially separating the first portion of the second signal from the second portion of the second signal.

19. The computer program of Claim 18, wherein the computer readable program code for decomposing the matrix comprises computer readable program code for performing canonical QR-decomposition on the matrix, the canonical QR-decomposition creating an orthogonal matrix and an upper triangular matrix.

20. The computer program of Claim 19, wherein:

the upper triangular matrix has a plurality of values along a diagonal of the matrix, each value being greater than or equal to zero; and

the diagonal lies between an upper left corner and a lower right corner of the upper triangular matrix.

21. The computer program of Claim 18, wherein the projection of the matrix comprises a projection of the first signal, the first portion of the second signal, and the second portion of the second signal.

22. The computer program of Claim 18, further comprising computer readable program code for generating the matrix by:

forming a first column Hankel matrix in a first portion of the matrix; and

forming a second column Hankel matrix in a first portion of the matrix.

23. The computer program of Claim 22, wherein:

the first column Hankel matrix comprises a backward column Hankel matrix; and

the second column Hankel matrix comprises a forward column Hankel matrix.

24. The computer program of Claim 18, wherein the matrix comprises a first matrix, the first matrix containing a first segment of samples; and

further comprising computer readable program code for:

receiving a second matrix containing a second segment of samples;

concatenating the second matrix with an upper triangular matrix associated with the first matrix to form a concatenated matrix; and

decomposing the concatenated matrix so as to form a projection of the concatenated matrix.

25. The computer program of Claim 24, wherein the computer readable program code for concatenating the second matrix with the upper triangular matrix comprises computer readable program code for multiplying values in the upper triangular matrix by a forgetting factor.

26. A system, comprising:

a monitored system operable to receive a first signal and provide a second signal, the second signal comprising a first portion associated with the first signal and a second portion associated with at least one disturbance; and

a controller operable to:

produce a matrix comprising a first plurality of samples associated with the first signal and a second plurality of samples associated with the second signal; and

decompose the matrix so as to form a projection, the projection at least substantially separating the first portion of the second signal from the second portion of the second signal.

27. A method, comprising:

performing canonical QR-decomposition on a matrix, the canonical QR-decomposition creating an orthogonal matrix and an upper triangular matrix;

wherein the upper triangular matrix has a plurality of values along a diagonal of the upper triangular matrix, each value being greater than or equal to zero, the diagonal lying between an upper left corner and a lower right corner of the upper triangular matrix.